

AMENDMENT

IN THE CLAIMS:

Please amend the claims as follows:

1-25. (Canceled)

26. (New) A method for the production of a membrane electrode unit for direct methanol fuel cells, which comprises

- (a) coating an anode gas diffusion substrate with an anode catalyst ink to form a coated anode gas diffusion substrate;
- (b) drying the coated anode gas diffusion substrate;
- (c) coating a first side of an ionomer membrane with a cathode catalyst ink;
- (d) drying the first side of the ionomer membrane;
- (e) coating a second side of the ionomer membrane with the anode catalyst ink;
- (f) drying the second side of the ionomer membrane;
- (g) uniting the coated anode gas diffusion substrate with (1) the ionomer membrane coated on both sides so that the second side of the ionomer member that is coated with the anode catalyst ink faces the anode gas diffusion substrate and (2) with a cathode gas diffusion substrate so that the cathode gas diffusion substrate is in contact with the first side of the ionomer membrane with the cathode catalyst ink,
said steps (a) to (g) resulting in a membrane electrode unit with a double-layer anode, having a larger catalyst layer thickness than the resulting cathode catalyst layer.

27. (New) The method of claim 26, wherein the anode catalyst layer has a thickness of between 20 and 200 micron.

28. (New) The method of claim 27, wherein the cathode catalyst layer has a thickness between 5 and 50 micron.

29. (New) The method of claim 26, wherein the cathode catalyst layer has a thickness between 5 and 50 micron.
30. (New) The method of claim 26, wherein the anode catalyst layer has a precious metal loading of between 0.25 and 6 mg of precious metal/cm².
31. (New) The method of claim 26, wherein the cathode catalyst layer has a precious metal loading of between 0.1 and 2.5 mg of precious metal/cm².
32. (New) The method as claimed in claim 26, wherein supported or unsupported bi-metallic platinum/ruthenium catalysts are used as anode catalyst.
33. (New) The method as claimed in claim 26, wherein supported or unsupported platinum-containing catalysts are used as cathode catalyst.
34. (New) The method of claim 26, further comprising washing the coated anode gas diffusion substrate or the ionomer membrane with water.
35. (New) A membrane electrode unit for direct methanol fuel cells obtainable by the process according to claim 26.
36. (New) The method of claim 26, wherein the cathode gas diffusion layer comprises carbon fiber paper rendered hydrophobic by PTFE.
37. (New) The method of claim 26, wherein the anode catalyst layer has a thickness that is larger than a thickness of the cathode catalyst layer by a factor of 2 to 4.
38. (New) The method of claim 26, wherein the anode catalyst layer has a catalyst loading that is greater than the cathode catalyst loading by a factor of 2.5.